AVAGO TECHNOLOGIES, LTD.
4380 Ziegler Road, Attn: Kathy Manke, MS 76
Fort Collins, CO 80525-9640

ATTORNEY DOCKET NO. 10038899-1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): R. Shane Fazzio

Serial No.: 10/807,417 **Examiner:** Monica Lewis

Filing Date: March 23, 2004 **Group Art Unit:** 2822

Title: Microcap Wafer Bonding Apparatus

COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria VA 22313-1450

REQUEST FOR CONTINUED EXAMINATION (RCE) 37 CFR 1.114

Subsection (b) of 35 U.S.C. 132, effective on May 29, 2000, provides for continued examination of an utility or plant application filed on or after June 8, 1995.
See The American Inventors Protection Act of 1999 (AIPA).

Sir:

This is a Request for Continued Examination (RCE) under CFR 1.114 of the above-identified application

NOTE: 37 CFR 1.114 is effective on May 29, 2000. If the above application was filed prior to May 29, 2000, applicant may wish to consider filing a continued prosecution application (CPA) under CFR 1.53(d) (PTO/SB/29) instead of a RCE to be eligible for the patent term adjustment provisions of the AIPA. See Changes to Application Examination and Provisional Application Practice, Interim Rule, 65 Fed. Reg. 14865 (Mar. 20, 2000), 1233 Off. Gaz. Pat. Office 47 (Apr. 11, 2000), which Established RCE practice.

Submission under 37 CFR 1.114

☐ Previously submitted:
- ☐ Consider the amendment(s)/reply under 37 CFR 1.116 previously filed on (Any unentered amendment(s) referred to above will be entered).
- ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on
- ☐ Other.

☒ Enclosed:
- ☒ Amendment/Reply
- ☐ Affidavit(s)/Declarations(s)
- ☐ Information Disclosure Statement (IDS)
- ☐ Other

Miscellaneous

- ☐ Suspension of action is requested under 37 CFR 1.103(c) for a period of months. The fee for this Suspension is (37 CFR 1.17(i)) **$130.00**.
- ☐ Other.

CONTINUED EXAMINATION TRANSMITTAL
(RCE) (37 CFR 1.114) (continued)

ATTORNEY DOCKET NO. 10030899-1

RCE filing fee **$790.00**

☐ A Petition for Extension of Time

☐	One month	$120.00
☐	Two months	$450.00
☐	Three months	$1020.00
☐	Four months	$1590.00

Please charge to Deposit Account **50-3718** the sum of $790.00 . At any time during the pendency of this application, please charge any fees required or credit any overpayment to Deposit Account **50-3718** pursuant to 37 CFR 1.25.

☒ I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria VA 22313-1450.

Date of Deposit:

OR

☐ I hereby certify that this paper is being facsimile transmitted to the Commissioner for Patents on the date shown below.

Date of Facsimile:

Typed Name: Thomas F. Woods

Signature: _____

Respectfully submitted,

R. Shane Fazzio

By _____

Thomas F. Woods
Attorney/Agent for Applicant(s)

Reg. No. 36,726

Date: August 27, 2007

Telephone No. (303) 823-6580

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: R. Shane Fazzio

Examiner Name: Monica Lewis

Serial No.: 10/807,417

Group Art Unit: 2822

Filed: March 23, 2004

Attorney Docket No.: 10030899-1

Confirmation No.: 3854

Title: Microcap Wafer Bonding Apparatus

REQUEST FOR CONTINUING EXAMINATION AND PRELIMINARY AMENDMENT AND RESPONSE

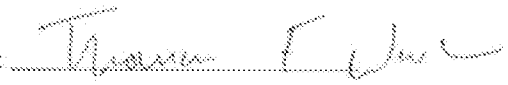
Commissioner for Patents
P.O. Box 1450
Arlington, VA 22313-1450

Sir:

In response to the Final Office Action dated August 29, 2007, and in conjunction with the Request for Continuing Examination submitted herewith, Applicants respectfully request entry of the preliminary amendments set forth herein, and allowance of the above-identified patent application as amended herein:

DATE OF DEPOSIT: August 27, 2007

CERTIFICATE OF ELECTRONIC DEPOSIT: I hereby certify that all paper(s) described herein are being filed electronically with the United States Patent and Trademark Office on the date indicated above and addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Signature: 

Printed Name: Thomas F. Woods, Reg. No. 36,726

I. Amendments

A. In the Claims

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of the Claims

Please cancel claims 1- 4, 6, 9-11, and 20-23, and add new claims 24 through 36 as follows:

1-4. (cancelled)

5. (previously cancelled)

6. (cancelled)

7-8. (previously cancelled)

9-11. (cancelled)

12-19. (previously withdrawn)

20-23. (cancelled)

24. (new) A hermetically sealed integrated circuit package, comprising:

an integrated circuit comprising a substrate having an upper surface, a perimeter being disposed upon the upper surface and defining a hermetically sealed portion therewithin, at least one circuit element being disposed within the hermetically sealed portion;

a hermetic cap comprising a top member and a gasket, the cap being configured to cover the hermetically sealed portion and form a hermetically sealed cavity thereover, the gasket comprising opposing first inner and first outer vertical sidewalls depending downwardly from the cap, the sidewalls terminating in and being separated by a bottom edge;

a bonding agent disposed between and engaging the substrate and the bottom edge to form a hermetic seal between the cap and the substrate and thereby hermetically seal the cavity, the bonding agent further comprising opposing second inner and second outer sidewalls disposed between the substrate and the gasket, the second inner sidewall being located within the hermetically sealed portion, the second outer sidewall being located outside the hermetically sealed portion, and

a caulking agent disposed along and engaging at least portions of at least one of the second inner sidewall and the second outer sidewall, the caulking agent improving the hermeticity of the hermetic seal formed by the bonding agent.

25. (new) The hermetically sealed integrated circuit package of claim 24, wherein the caulking agent is disposed along substantially all of the second inner sidewall.

26. (new) The hermetically sealed integrated circuit package of claim 24, wherein the caulking agent is disposed along substantially all of the second outer sidewall.

27. (new) The hermetically sealed integrated circuit package of claim 24, wherein the caulking agent is disposed along substantially all of the second outer sidewall and the second inner sidewall.

28. (new) The hermetically sealed integrated circuit package of claim 24, wherein the caulking agent is disposed along at least portions of the first inner sidewall.

29. (new) The hermetically sealed integrated circuit package of claim 24, wherein the caulking agent is disposed along at least portions of the first outer sidewall.

30. (new) The hermetically sealed integrated circuit package of claim 24, wherein the caulking agent is disposed along at least portions of the first inner sidewall and the first outer sidewall.

31. (new) The hermetically sealed integrated circuit package of claim 24, wherein the caulking agent comprises multiple layers of caulking material.

32. (new) The hermetically sealed integrated circuit package of claim 24, wherein the bonding agent comprises gold.

33. (new) The hermetically sealed integrated circuit package of claim 24, wherein the caulking agent comprises at least one of an amorphous fluorocarbon polymer, a polyimide material, and a benzocyclobutene-based material.

34. (new) The hermetically sealed integrated circuit package of claim 24, wherein a thickness of the gasket between the first inner sidewall and the first outer sidewall ranges between about 1 micron and about 10 microns.

35. (new) The hermetically sealed integrated circuit package of claim 24, wherein the at least one circuit element comprises at least one of a resonator, a transistor and a connector.

36. (new) The hermetically sealed integrated circuit package of claim 24, wherein the substrate comprises silicon.

II. Remarks

Support for the various amendments made to the claims herein may be found throughout the application as filed. Claims 1- 4, 6, 9-11, and 20-23 are cancelled herein, and new claims 24 through 36 are added herein, claims 12-19 having been withdrawn previously pursuant to a Restriction Requirement, claims 5, 7 and 8 having been cancelled previously.

On May 29, 2007, a Final Office Action (hereafter "Final Office Action") was mailed rejecting all of then-pending claims 1-4, 6, 9-11 and 20-23 on the basis of the Applicant's Admitted Prior Art ("APA"), U.S. Patent Publication No. 2003/0062830 to Guenther (hereafter "the first Guenther reference"), U.S. Patent Publication No. 2003/0061693 to Kikushima (hereafter "the Kikushima reference"), U.S. Patent No. 6,459,160 to Goldmann (hereafter "the Goldmann reference"), U.S. Patent Publication No. 2003/0143423 to McCormick (hereafter "the McCormick reference"), U.S. Patent No. 6,046,074 to McHerron (hereafter "the McHerron reference"), and U.S. Patent Publication No. 2004/0211966 to Guenther (hereafter "second Guenther reference").

The present Request for Continuing Examination and Preliminary Amendment and Response are submitted herewith in response to the Final Office Action.

III. Rejections of Claims Made in the Final Office Action

In the Final Office Action mailed May 29, 2007, the Examiner rejected claims and objected to claims on the following bases:

(A) Claims 1-3, 6 and 21-23 were rejected under 35 U.S.C. Section 103(a) as being unpatentable over APA in view of the first Guenther reference;

(B) Claim 4 was rejected under 35 U.S.C. Section 103(a) as being unpatentable over the first Guenther reference in view of the Kikushima reference;

(C) Claims 9 and 10 were rejected under 35 U.S.C. Section 103(a) as being unpatentable over the first Guenther reference in view of the Goldmann reference;

(D) Claim 11 was rejected under 35 U.S.C. Section 103(a) as being unpatentable over the APA, the first Guenther reference, the McCormick reference, and the McHerron reference;

(E) Claim 20 was rejected under 35 U.S.C. Section 103(a) as being unpatentable over the APA, the first Guenther reference and the second Guenther reference.

Each of the foregoing rejections and objections is responded to below, where each response references the letter corresponding to each rejection set forth above.

IV. Responses to Rejections Made in the Office Action

(A) Claims 1-3, 6 and 21-23 are cancelled herein, rendering moot the rejections of such claims; New claims 24-36 are patentable over the APA in view of the first Guenther reference.

Claims 1-3, 6 and 21-23 are cancelled herein, rendering moot the rejections of such claims on the basis of the APA and the first Guenther reference. In addition, for the reasons set forth below, new claims 24-36 are patentable over the APA in view of the first Guenther reference.

Reference to new claim 24 presented herein (and from which all other new claims 25-36 depend) shows that this claim contains elements and limitations disclosed nowhere in the cited APA and first Guenther references. For example, reference to new claim 24 as presented herein shows that claim 24 recites a caulking agent disposed along and engaging at least portions of at least one of the second inner sidewall and the second outer sidewall, where the caulking agent improves the hermeticity of the hermetic seal formed by the bonding agent. No such elements are disclosed, hinted at or suggested anywhere in the APA or the first Guenther reference.

Perusal of the first Guenther reference shows that it is entitled "Reinforcement of glass substrates in flexible devices" and discloses a reinforcement technique used in the fabrication of displays, such as organic light emissive diode (OLED) displays. A stiff reinforcement lid is mounted on a thin substrate to encapsulate OLED cells. The lid serves to reinforce the thin flexible substrate

and protect it from breakage. It comprises preferably of metal or other materials that have higher stiffness and ductility than the thin substrate. The fabricated display is compatible for integration into chip cards and other flexible applications.

Fig. 4 of the first Guenther reference is presented below:

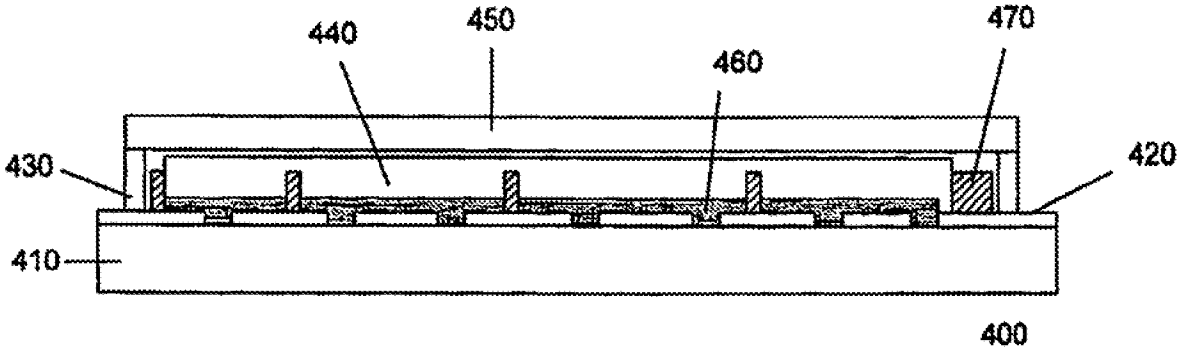


Fig. 4

Fig. 4 of the First Guenther Reference

Pertinent excerpts from the first Guenther reference include the following portions describing Fig. 4 thereof:

> [0017] FIG. 4 shows one embodiment of the invention. A thin or ultra thin glass substrate 410 is provided. The glass substrate, for example, can be made from silicate glass such as borosilicate glass. Other transparent materials, such as sodalime glass or other types of glass, are also useful. Typically, the thickness of the thin glass substrate is less than about 0.4 mm, preferably about 0.01-0.2 mm, and more preferably about 0.03-0.2 mm.
>
> [0018] A conductive layer 420 is deposited on the substrate. The conductive layer is then patterned, selectively removing portions thereof as desired. The patterned conductive layer serves as first electrodes for the OLED cells.
>
> [0019] In a preferred embodiment, a dielectric layer 470 is deposited on the substrate after the conductive layer is patterned. The dielectric layer, in one embodiment, comprises a photosensitive layer, such as photosensitive resist or polyimide. Other types of photosensitive layers are also useful. The thickness of the layer is typically less than 0.5 mm. The dielectric layer is patterned to form isolation pillars on the substrate, isolating the cathode materials. These pillars also support the layers above it and improve the flexibility of the device by about 10 to 30 percent.
>
> [0020] If a resist is used, the resist is patterned by selectively exposing it to radiation through a mask and developing it to remove the exposed or unexposed portions, depending on whether a positive or negative active resist is used. If a non-photosensitive layer is used, a resist layer is deposited and patterned to serve as an etch mask for patterning the non-photosensitive layer using, for example, an anisotropic etch such as a reactive ion etch (RIE).
>
> [0021] One or more organic functional layers 460 are formed on the substrate, covering the conductive layer. In one embodiment, the functional organic layers comprise a

> conjugated polymer or a low molecular material such as Alq_3. Other types of functional organic layers are also useful. Typically, the thickness of the organic layers is about 2-200 nm. The organic layer is then patterned, removing portions thereof to expose the anode for bond pad connections.
>
> [0022] A second conductive layer 440 is deposited over the substrate to serve as the cathode. The second conductive layer comprises a conductive material such as Ca, Mg, Ba, Ag or a mixture thereof. The top electrode strips are typically orthogonal to the bottom electrode strips. Forming top electrode strips that are diagonal to the bottom electrode strips is also useful. The intersections of the top and bottom electrode strips form organic LED pixels.
>
> [0023] A flat lid 450 is mounted on the substrate to encapsulate the device according to one embodiment. The lid layer comprises preferably of metal (e.g. stainless steel alloy, aluminium alloy). Typically, the thickness of the lid layer 0.04-0.4 mm. The lid should have higher stiffness and ductility than the substrate, and good resistance against oxidation and chemicals. The thickness of the lid and substrate stack is preferably less than 0.6 mm so that it can be easily integrated into the chip card.
>
> [0024] Various techniques can be used attach the lid to the substrate. In one embodiment, an adhesive 430 is used to mount the lid layer. Adhesives such as self-hardening adhesives, UV or thermal curable adhesives, or hot melt adhesives are useful. Other techniques that employ low temperature solder materials, ultrasonic bonding, or welding techniques using inductance or laser welding are also useful.

Nowhere does the first Guenther reference disclose ***anything*** regarding the formation of hermetic seals on an integrated circuit or on an integrated circuit substrate. Nowhere does the first Guenther reference disclose anything regarding improving the hermeticity of a seal formed by a bonding agent by

applying a caulking agent to the bonding agent. Instead, the first Guenther reference merely discloses the use of an adhesive 430 to attach a lid 450 to a thin glass substrate 410. See excerpts from the first Guenther reference above.

Completely contrary to the Examiner's statements in the May 29 Final Office Action, ***nowhere does the first Guenther reference disclose a caulking agent,*** let alone a caulking agent applied to a bonding agent that improves the hermeticity of the seal provided by the bonding agent. Instead, the first Guenther reference discloses a dielectric layer 470 patterned to form isolation pillars on the glass substrate that are configured to isolate electrically cathode materials from one another, as well as to support the layers above them and improve the flexibility of the device. Dielectric layer 470 is not disclosed in the first Guenther reference as providing any sealing function whatsoever, and is disclosed only in the context of providing electrical isolation between adjoining cathode elements. See paragraph 19 of the first Guenther reference. In fact, reference to Fig. 4 of the first Guenther reference shows that dielectric isolation pillars 470 are not even in contact with and do not engage adhesive 420, and are physically separated some distance therefrom. Accordingly, even if isolation pillars 470 were capable of providing some sort of sealing function (which they clearly are not – as evidenced by their position beneath lid 450 and inwardly and separated from adhesive 430), pillars 470 could not improve the sealing function of adhesive 430 since they are not in contact therewith.

Perusal of the APA shows that it merely discloses the state of the art regarding hermetic seal technology for integrated circuits

and integrated circuit substrates. ***Nowhere does the APA disclose a caulking agent,*** let alone a caulking agent applied to a bonding agent that improves the hermeticity of the seal provided by the bonding agent. Instead, the APA discloses a conventional hermetic seal provided by a bonding agent alone.

The Applicants have discovered that a certain novel combination of structural, electrical, chemical and electronic elements combined and configured in a certain order are required to produce the beneficial effects of the present invention. As demonstrated above, ***several interconnected elements and limitations recited in claims 24-36 are neither disclosed nor suggested anywhere in the first Guenther reference or the APA***, and accordingly cannot be *prima facie* obvious.

Merely asserting that "would be obvious to try" the invention by making reference to the bonding agent of the APA, and the dielectric patterning for separating cathode elements of the first Guenther reference, while essentially creating other claimed elements out of whole cloth without referring to any specific portions of the cited references to establish a motivation for combining elements or functionality disclosed therein, would not establish a *prima facie* case of obviousness. In going from the prior art to the claimed invention, one cannot base obviousness on what a person skilled in the art might try or find obvious to *try*, but rather must consider what the prior art would have lead a person skilled in the art to *do*.

There is no incentive, teaching or suggestion in the first Guenther reference or the APA to produce the invention now recited in claims 24-36. The mere fact that the cited the first

Guenther reference and the APA could, with the benefit of hindsight, produce something vaguely similar to the present invention does not make the modification obvious, or suggest the desirability of the modification required to arrive at the present invention. Indeed, this conclusion is buttressed by the fact that several elements and limitations are missing in the first Guenther reference and the APA in respect of new claims 24-36 as presented herein, and as discussed above in detail.

It is well settled that a motivation to combine elements or limitations disclosed in disparate references *must be found from pertinent sources of information,* and that such a motivation does not arise, as here, by merely identifying a collection of disparate piece parts in a combination of references, and then asserting it would have been obvious to take such disparate elements and limitations and add many others thereto to arrive at the presently claimed invention.

There is no suggestion of what direction any experimentation should follow in the first Guenther reference or the APA to obtain the invention recited in new claims 24-36. Accordingly, the result effective variables, for example forming a hermetic seal between a lid and a substrate using a bonding agent, and then applying a caulking agent to at least portions of the bonding agent to improve the hermeticity thereof, are not known to be result effective. Thousands or millions of attempts at variations might be made before arriving at the desired improvement. Thus, to say that it would be obvious to read the APA and the first Guenther reference and somehow arrive at the invention recited in new claims 24-36 would clearly not be the test for obviousness.

The foregoing analysis also makes it clear that there is no basis in the art for modifying the teachings of the APA and the first Guenther reference to arrive at the invention recited in new claims 24-36. Obviousness cannot be established by combining or modifying the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination. While the APA discloses that the hermeticity of integrated circuit packages may become compromised over time, there is no suggestion or hint at what might be done to improve the hermeticity of prior art seals in such packages. The first Guenther reference ***teaches literally nothing*** regarding the problems associated with forming a hermetic seal, or maintaining the hermeticity thereof, in an integrated circuit package, and instead is directed towards solving problems arising from the breakage or flexure of thin glass substrates in OLED displays. Thus, there exists no motivation to combine the teachings of the APA and the first Guenther reference.

When, as here, the prior art itself provides no apparent reason for one of ordinary skill in the art to make a modification or to combine references, an argument clearly does not exist that the claimed subject matter would have been obvious. Thus, an attempt to use the applicants' own disclosure as a blueprint to reconstruct in hindsight the invention now recited in claim as amended herein out of isolated teachings appearing in the prior art would clearly be improper.

The results and advantages produced by the invention set forth in new claims 24-36 as presented herein, and of which the cited first Guenther reference and APA are devoid, cannot be

ignored simply because the claim limitations might be deemed similar to the otherwise barren prior art.

The foregoing analysis also makes it clear that many limitations appearing in new claims 24-36 are not present in the first Guenther reference and APA. When evaluating a claim for determining obviousness, *all* limitations of the claim must be evaluated. Under §103, the Examiner cannot in turn dissect new claims 24-36 as presented herein, excise the various individual elements recited in the claims, and then declare the remaining portions of the mutilated claims to be unpatentable. The Examiner must follow the basic rule of claim interpretation of reading the claims as a whole. Accordingly, the first Guenther reference and APA may not properly be used as a basis for rejecting new claims 24-36 as presented herein under §103.

For all the foregoing reasons and more, the presently claimed invention is not *prima facie* obvious in view of the first Guenther reference and APA.

(B) Claim 4 is cancelled herein, rendering moot the rejection of such claims; New claims 24-36 are patentable over the first Guenther reference in view of the Kikushima reference.

Claim 4 is cancelled herein, rendering moot the rejection of such claim on the basis of the first Guenther reference and the Kikushima reference. In addition, for the reasons set forth below, new claims 24-36 are patentable over the first Guenther reference in view of the Kikushima reference.

Reference to new claim 24 presented herein (and from which all other new claims 25-36 depend) shows that this claim contains elements and limitations disclosed nowhere in the cited first Guenther reference and the Kikushima reference. For example, reference to new claim 24 as presented herein shows that claim 24 recites a caulking agent disposed along and engaging at least portions of at least one of the second inner sidewall and the second outer sidewall, where the caulking agent improves the hermeticity of the hermetic seal formed by the bonding agent. No such elements are disclosed, hinted at or suggested anywhere in the first Guenther reference or the Kikushima reference.

The contents of the first Guenther reference are discussed above in detail.

Perusal of the Kikushima reference shows that it discloses a compact, thin piezo-electric resonator having high air-tightness. ***Nowhere does the Kikushima reference disclose a caulking agent,*** let alone a caulking agent applied to a bonding agent that improves the hermeticity of the seal provided by the bonding agent.

Instead, the Kikushima reference discloses a lone sealing material 7 that is melted to seal quartz resonator element 3 within housing 41 consisting of base 1 and lid 6. See, for example, paragraph 82 and Fig. 1(b) of the Kikushima reference.

The Applicants have discovered that a certain novel combination of structural, electrical, chemical and electronic elements combined and configured in a certain order are required to produce the beneficial effects of the present invention. As demonstrated above, ***several interconnected elements and limitations recited in claims 24-36 are neither disclosed nor suggested anywhere in the first Guenther reference or the Kikushima reference***, and accordingly cannot be *prima facie* obvious.

Merely asserting that "would be obvious to try" the invention by making reference to the dielectric patterning for separating cathode elements of the first Guenther reference, and the resonator and sealing material of the Kikushima reference, while essentially creating other claimed elements out of whole cloth without referring to any specific portions of the cited references to establish a motivation for combining elements or functionality disclosed therein, would not establish a *prima facie* case of obviousness. In going from the prior art to the claimed invention, one cannot base obviousness on what a person skilled in the art might try or find obvious to *try*, but rather must consider what the prior art would have lead a person skilled in the art to *do*.

There is no incentive, teaching or suggestion in the first Guenther reference or the Kikushima reference to produce the invention now recited in claims 24-36. The mere fact that the cited

the first Guenther reference and the Kikushima reference could, with the benefit of hindsight, produce something vaguely similar to the present invention does not make the modification obvious, or suggest the desirability of the modification required to arrive at the present invention. Indeed, this conclusion is buttressed by the fact that several elements and limitations are missing in the first Guenther reference and the Kikushima reference in respect of new claims 24-36 as presented herein, and as discussed above in detail.

It is well settled that a motivation to combine elements or limitations disclosed in disparate references *must be found from pertinent sources of information,* and that such a motivation does not arise, as here, by merely identifying a collection of disparate piece parts in a combination of references, and then asserting it would have been obvious to take such disparate elements and limitations and add many others thereto to arrive at the presently claimed invention.

There is no suggestion of what direction any experimentation should follow in the first Guenther reference or the Kikushima reference to obtain the invention recited in new claims 24-36. Accordingly, the result effective variables, for example forming a hermetic seal between a lid and a substrate using a bonding agent, and then applying a caulking agent to at least portions of the bonding agent to improve the hermeticity thereof, are not known to be result effective. Thousands or millions of attempts at variations might be made before arriving at the desired improvement. Thus, to say that it would be obvious to read the first Guenther reference and the Kikushima reference and somehow arrive at the invention

recited in new claims 24-36 would clearly not be the test for obviousness.

The foregoing analysis also makes it clear that there is no basis in the art for modifying the teachings of the first Guenther reference and the Kikushima reference to arrive at the invention recited in new claims 24-36. Obviousness cannot be established by combining or modifying the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination. The first Guenther reference ***teaches literally nothing*** regarding the problems associated with forming a hermetic seal, or maintaining the hermeticity thereof, in an integrated circuit package, and instead is directed towards solving problems arising from the breakage or flexure of thin glass substrates in OLED displays. The Kikushima reference is directed towards solving the problem of providing access to the interior of a piezo-electric package after it has been sealed. Thus, there exists no motivation to combine the teachings of the first Guenther reference and the Kikushima reference.

When, as here, the prior art itself provides no apparent reason for one of ordinary skill in the art to make a modification or to combine references, an argument clearly does not exist that the claimed subject matter would have been obvious. Thus, an attempt to use the applicants' own disclosure as a blueprint to reconstruct in hindsight the invention now recited in claim as amended herein out of isolated teachings appearing in the prior art would clearly be improper.

The results and advantages produced by the invention set forth in new claims 24-36 as presented herein, and of which the

cited first Guenther reference and the Kikushima reference are devoid, cannot be ignored simply because the claim limitations might be deemed similar to the otherwise barren prior art.

The foregoing analysis also makes it clear that many limitations appearing in new claims 24-36 are not present in the first Guenther reference and the Kikushima reference. When evaluating a claim for determining obviousness, *all* limitations of the claim must be evaluated. Under §103, the Examiner cannot in turn dissect new claims 24-36 as presented herein, excise the various individual elements recited in the claims, and then declare the remaining portions of the mutilated claims to be unpatentable. The Examiner must follow the basic rule of claim interpretation of reading the claims as a whole. Accordingly, the first Guenther reference and the Kikushima reference may not properly be used as a basis for rejecting new claims 24-36 as presented herein under §103.

For all the foregoing reasons and more, the presently claimed invention is not *prima facie* obvious in view of the first Guenther reference and the Kikushima reference.

(C) Claims 9 and 10 are cancelled herein, rendering moot the rejection of such claims; New claims 24-36 are patentable over the first Guenther reference in view of the Goldmann reference.

Claims 9 and 10 are cancelled herein, rendering moot the rejection of such claims on the basis of the first Guenther reference and the Kikushima reference. In addition, for the reasons set forth below, new claims 24-36 are patentable over the first Guenther reference in view of the Goldmann reference.

Reference to new claim 24 presented herein (and from which all other new claims 25-36 depend) shows that this claim contains elements and limitations disclosed nowhere in the cited first Guenther reference and the Goldmann reference. For example, reference to new claim 24 as presented herein shows that claim 24 recites a caulking agent disposed along and engaging at least portions of at least one of the second inner sidewall and the second outer sidewall, where the caulking agent improves the hermeticity of the hermetic seal formed by the bonding agent. No such elements are disclosed, hinted at or suggested anywhere in the first Guenther reference or the Goldmann reference.

The contents of the first Guenther reference are discussed above in detail.

Perusal of the Goldmann reference shows that it discloses a package with a low-stress hermetic seal. Completely contrary to the Examiner's statements in the May 29 Final Office Action, ***nowhere does the Goldmann reference disclose a caulking agent,*** let alone a caulking agent applied to a bonding agent that improves the hermeticity of the seal provided by the bonding agent.

We refer now to pertinent portions of the Goldmann reference, including Figs. 2 and 3E thereof, reproduced below:

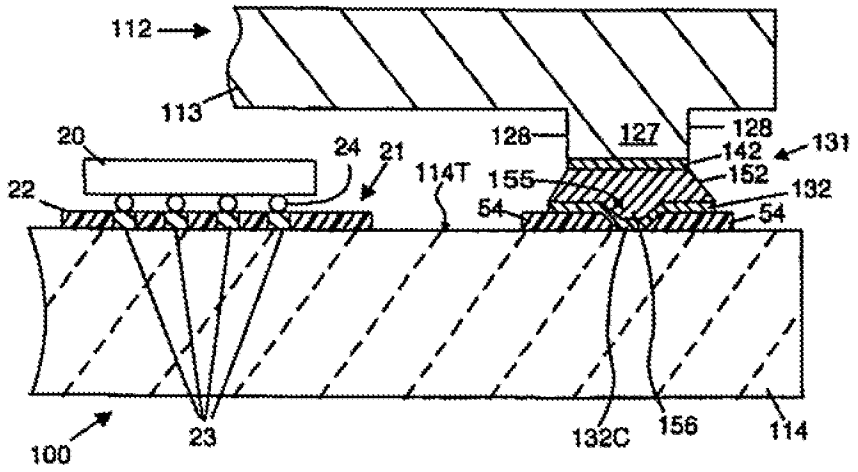


FIG. 2

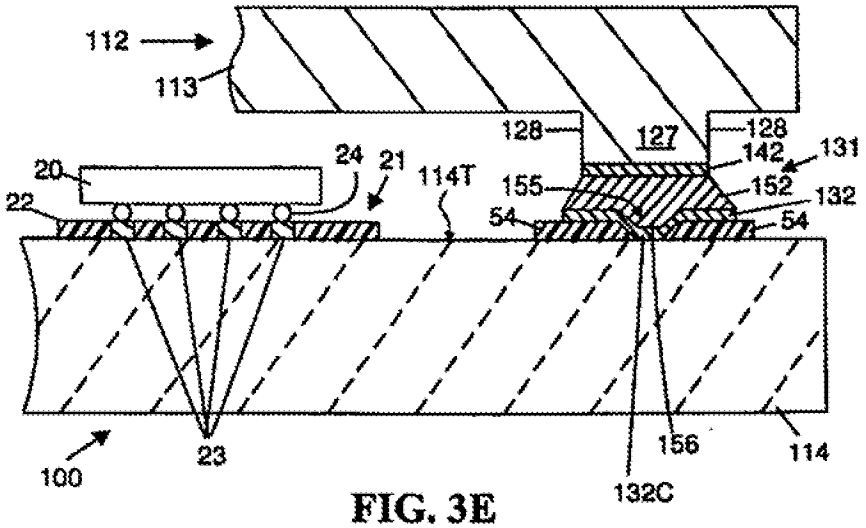


FIG. 3E

Figs. 2 and 3E of the Goldmann Reference

FIG. 2 is a schematic diagram a cross-section of a fragment of a semiconductor module 100 illustrating the structure of a preferred embodiment of this invention.

The module 100 includes a chip carrier 114 and a rectangularly shaped chip cover 112, fragments of which are shown bonded together. The chip cover 112 has a top 113 and four vertical sides 127. The sides127, which have vertical sidewalls 128, are joined at their bottoms surfaces to the periphery of the top surface of the chip carrier 114 by a hermetic sealing structure 131. That is to say that thee hermetic sealing structure 131 is formed between bottoms of the sides 127 of cover 112 and the border of the top surface of the chip carrier 114, in accordance with this invention. A via-seal 156 is formed by solder 152 which is located in a position that is remote from the high-stress edges of the lower adhesion frame 132. The solder 152 which fills a narrow via-seal channel 155 is separated from the high-stress edges of the lower adhesion frame 132 by a soft, polymeric cushion-frame 54. This separation between the solder and the high stress edges is provided to protect the chip carrier 114 from the stresses generated between the solder and the high stress edges of the lower adhesion frame 132.

Inside the cover 112, a electronic-circuit-bearing, semiconductor chip 20 is shown supported by an optional interconnect structure 21 which is formed on the surface of the chip carrier 114. In this embodiment, the interconnect structure 21 comprises an insulating layer 22 which has metal vias 23 extending from the top surface of layer 22 to contacts (not shown) in the chip carrier 114. The chip 20 (which may represent just one of a plurality of chips 20 formed in an x-y array as seen in FIG. 4E, is connected to the vias 23 in the interconnect structure 21 by connectors which are shown as C4 solder ball junctions 24 in this embodiment of the invention.

The hermetic sealing structure 131 is provided to protect the chip or a plurality of chips 20 or other elements and the circuits on the surface of the chip carrier 114 which need to be protected from the ambient atmosphere outside of the module 100. *Col. 6, line 63 through col. 7, line 35 of U.S. Patent No. 6,459,160.*

FIG. 3E shows the device 100 of FIG. 3D after the solder frame preform 152 has been heated to its melting point so that the solder frame preform 152 melts and flows down into the upper, via-seal channel 155 (shown in FIGS. 3C and 3D) forming a solder frame 152' conforming with the surface of the metal lower adhesion frame 132. A metal cover adhesion frame 142, which is formed on the bottom of the sides 127 of the cover 112, is bonded to the solder frame 152'. The solder frame 152' , which fills the via-seal channel 155 has formed a metal via-seal 156 is formed in the channel 155 by the heating of the solder frame preform 152 until it melts thereby filling the via-seal channel 155 midway between the outer and inner edges of the soft, polymeric cushion-frame 54. The solder frame 152' forms the metal-to-metal via-seal 156 in the channel 155 above the thin metal lower adhesion frame 132. Note that the metal cover adhesion frame 142 is formed on the bottom surfaces at the bases of the four sides 127 of the cap 112 confronting the solder frame preform 152 and thus provides full hermeticity. The via-seal 156, formed by the solder frame 152' filling the via-seal channel 155, is narrow and the separation provided by the soft, polymeric cushion-frame 54 protects the chip carrier 114 which is remote from the high-stress edges of the lower adhesion frame 132 as can be seen by reference to FIGS. 3A-3C and the text relative found herein below.

The above excerpts and portions from the Goldmann reference show that a hermetic seal is provided between chip cover 112 and chip carrier 114, where the seal comprises solder 152, polymeric cushion frame 54, metal cover adhesion frame 142, and lower adhesion frame 132. The vertically stacked arrangement of seal components 142, 152, 132 and 54 means that failure of the seal provided by any one of such components will result in a compromised and non-hermetic seal. That is, none of the seal components disclosed in the Goldmann reference improves the hermeticity of any of the other seal components disclosed therein. The Goldmann reference certainly contains no disclosure of a caulking agent that acts to improve the hermeticity of any of the seal components disclosed therein.

The Applicants have discovered that a certain novel combination of structural, electrical, chemical and electronic elements combined and configured in a certain order are required to produce the beneficial effects of the present invention. As demonstrated above, ***several interconnected elements and limitations recited in claims 24-36 are neither disclosed nor suggested anywhere in the first Guenther reference or the Goldmann reference***, and accordingly cannot be *prima facie* obvious.

Merely asserting that "would be obvious to try" the invention by making reference to the dielectric patterning for separating cathode elements of the first Guenther reference, and the vertically stacked, non-redundant sealing components of the Goldmann reference, while essentially creating other claimed elements out of whole cloth without referring to any specific portions of the cited

references to establish a motivation for combining elements or functionality disclosed therein, would not establish a *prima facie* case of obviousness. In going from the prior art to the claimed invention, one cannot base obviousness on what a person skilled in the art might try or find obvious to *try*, but rather must consider what the prior art would have lead a person skilled in the art to *do*.

There is no incentive, teaching or suggestion in the first Guenther reference or the Goldmann reference to produce the invention now recited in claims 24-36. The mere fact that the cited first Guenther reference and the Goldmann reference could, with the benefit of hindsight, produce something vaguely similar to the present invention does not make the modification obvious, or suggest the desirability of the modification required to arrive at the present invention. Indeed, this conclusion is buttressed by the fact that several elements and limitations are missing in the first Guenther reference and the Goldmann reference in respect of new claims 24-36 as presented herein, and as discussed above in detail.

It is well settled that a motivation to combine elements or limitations disclosed in disparate references *must be found from pertinent sources of information*, and that such a motivation does not arise, as here, by merely identifying a collection of disparate piece parts in a combination of references, and then asserting it would have been obvious to take such disparate elements and limitations and add many others thereto to arrive at the presently claimed invention.

There is no suggestion of what direction any experimentation should follow in the first Guenther reference or the Goldmann

reference to obtain the invention recited in new claims 24-36. Accordingly, the result effective variables, for example forming a hermetic seal between a lid and a substrate using a bonding agent, and then applying a caulking agent to at least portions of the bonding agent to improve the hermeticity thereof, are not known to be result effective. Thousands or millions of attempts at variations might be made before arriving at the desired improvement. Thus, to say that it would be obvious to read the first Guenther reference and the Goldmann reference and somehow arrive at the invention recited in new claims 24-36 would clearly not be the test for obviousness.

The foregoing analysis also makes it clear that there is no basis in the art for modifying the teachings of the first Guenther reference and the Goldmann reference to arrive at the invention recited in new claims 24-36. Obviousness cannot be established by combining or modifying the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination. The first Guenther reference ***teaches literally nothing*** regarding the problems associated with forming a hermetic seal, or maintaining the hermeticity thereof, in an integrated circuit package, and instead is directed towards solving problems arising from the breakage or flexure of thin glass substrates in OLED displays. The Goldmann reference is directed towards solving the problem of transmitting stresses between a chip cover and a chip carrier without breaking the hermetic seal disposed therebetween (i.e., providing a hermetic seal having some flexibility or "give" therebetween). Thus, there exists no motivation

to combine the teachings of the first Guenther reference and the Goldmann reference.

When, as here, the prior art itself provides no apparent reason for one of ordinary skill in the art to make a modification or to combine references, an argument clearly does not exist that the claimed subject matter would have been obvious. Thus, an attempt to use the applicants' own disclosure as a blueprint to reconstruct in hindsight the invention now recited in claim as amended herein out of isolated teachings appearing in the prior art would clearly be improper.

The results and advantages produced by the invention set forth in new claims 24-36 as presented herein, and of which the cited first Guenther reference and the Goldmann reference are devoid, cannot be ignored simply because the claim limitations might be deemed similar to the otherwise barren prior art.

The foregoing analysis also makes it clear that many limitations appearing in new claims 24-36 are not present in the first Guenther reference and the Goldmann reference. When evaluating a claim for determining obviousness, *all* limitations of the claim must be evaluated. Under §103, the Examiner cannot in turn dissect new claims 24-36 as presented herein, excise the various individual elements recited in the claims, and then declare the remaining portions of the mutilated claims to be unpatentable. The Examiner must follow the basic rule of claim interpretation of reading the claims as a whole. Accordingly, the first Guenther reference and the Goldmann reference may not properly be used as a basis for rejecting new claims 24-36 as presented herein under §103.

For all the foregoing reasons and more, the presently claimed invention is not *prima facie* obvious in view of the first Guenther reference and the Goldmann reference.

(D) Claim 11 is cancelled herein, rendering moot the rejection of such claim; New claims 24-36 are patentable over the APA and first Guenther reference in view of the McCormick and McHerron references.

Claim 11 is cancelled herein, rendering moot the rejection of such claim on the basis of the first Guenther reference and the McCormick and McHerron references. In addition, for the reasons set forth below, new claims 24-36 are patentable over the first Guenther reference in view of the McCormick and McHerron references.

Reference to new claim 24 presented herein (and from which all other new claims 25-36 depend) shows that this claim contains elements and limitations disclosed nowhere in the cited APA, or the first Guenther, McCormick or McHerron references. For example, reference to new claim 24 as presented herein shows that claim 24 recites a caulking agent disposed along and engaging at least portions of at least one of the second inner sidewall and the second outer sidewall, where the caulking agent improves the hermeticity of the hermetic seal formed by the bonding agent. No such elements are disclosed, hinted at or suggested anywhere in the APA, the first Guenther reference, or the McCormick and McHerron references.

The contents of the APA and the first Guenther reference are discussed above in detail.

Perusal of the McCormick reference shows that it discloses a substrate 12 upon which are located anode pad 14 and cathode pad 16. Encapsulation lid 24 is positioned over pads 14 and 16 atop adhesive gasket 22, which is a desiccant-loaded material. Optional high barrier adhesive 26 encompasses transfer adhesive 22. The McCormick reference is aimed at solving the problem of absorbing moisture trapped or generated within a hermetically sealed package, which end is accomplished by using desiccant-loaded adhesive 22.

Perusal of the McHerron reference shows that it discloses a seal between cap 12 and substrate 14, where the seal comprises vertically-stacked seal layers 44 (chromium), 46 (nickel), 48 (gold), 52 (solder), 38 (gold), 36 (nickel) and 34 (nickel). See Fig. 5 and col. 4, line 20 through col. 5, line 39 of the McHerron reference. As in the Goldmann reference, the vertically stacked arrangement of the seal layers of McHerron means that failure of the seal provided by any one of such layers will result in a compromised and non-hermetic seal. That is, none of the seal components disclosed in the McHerron reference improves the hermeticity of any of the other seal components disclosed therein. The McHerron reference certainly contains no disclosure of a caulking agent that acts to improve the hermeticity of any of the seal components disclosed therein.

The Applicants have discovered that a certain novel combination of structural, electrical, chemical and electronic elements combined and configured in a certain order are required

to produce the beneficial effects of the present invention. As demonstrated above, ***several interconnected elements and limitations recited in claims 24-36 are neither disclosed nor suggested anywhere in the APA, the first Guenther reference, the McCormick reference or the McHerron reference***, and accordingly cannot be *prima facie* obvious.

Merely asserting that "would be obvious to try" the invention by making reference to the dielectric patterning for separating cathode elements of the first Guenther reference, bonding agent of the APA, the desiccating adhesive of McCormick and the vertically-stacked metallized layers of McHerron, while essentially creating other claimed elements out of whole cloth without referring to any specific portions of the cited references to establish a motivation for combining elements or functionality disclosed therein, would not establish a *prima facie* case of obviousness. In going from the prior art to the claimed invention, one cannot base obviousness on what a person skilled in the art might try or find obvious to *try*, but rather must consider what the prior art would have lead a person skilled in the art to *do*.

There is no incentive, teaching or suggestion in the first Guenther reference, the APA, the McCormick reference or the McHerron reference to produce the invention now recited in claims 24-36. The mere fact that the cited the first Guenther reference, the APA, the McCormick reference and the McHerron reference could, with the benefit of hindsight, produce something vaguely similar to the present invention does not make the modification obvious, or suggest the desirability of the modification required to arrive at the present invention. Indeed, this conclusion is

buttressed by the fact that several elements and limitations are missing in the first Guenther reference, the APA, the McCormick reference and the McHerron reference in respect of new claims 24-36 as presented herein, and as discussed above in detail.

It is well settled that a motivation to combine elements or limitations disclosed in disparate references *must be found from pertinent sources of information,* and that such a motivation does not arise, as here, by merely identifying a collection of disparate piece parts in a combination of references, and then asserting it would have been obvious to take such disparate elements and limitations and add many others thereto to arrive at the presently claimed invention.

There is no suggestion of what direction any experimentation should follow in the first Guenther reference, the APA, the McCormick reference and the McHerron reference to obtain the invention recited in new claims 24-36. Accordingly, the result effective variables, for example forming a hermetic seal between a lid and a substrate using a bonding agent, and then applying a caulking agent to at least portions of the bonding agent to improve the hermeticity thereof, are not known to be result effective. Thousands or millions of attempts at variations might be made before arriving at the desired improvement. Thus, to say that it would be obvious to read the first Guenther reference, the APA, the McCormick reference and the McHerron reference and somehow arrive at the invention recited in new claims 24-36 would clearly not be the test for obviousness.

The foregoing analysis also makes it clear that there is no basis in the art for modifying the teachings of the first Guenther

reference, the APA, the McCormick reference and the McHerron reference to arrive at the invention recited in new claims 24-36. Obviousness cannot be established by combining or modifying the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination.

The first Guenther reference teaches nothing regarding the problems associated with forming a hermetic seal, or maintaining the hermeticity thereof, in an integrated circuit package, and instead is directed towards solving problems arising from the breakage or flexure of thin glass substrates in OLED displays. The APA is directed towards providing a hermetic seal in an integrated circuit package through the use of a single seal or bonding agent. The McCormick reference is aimed at solving the problem of absorbing moisture trapped or generated within a hermetically sealed package. The McHerron reference is directed to improving the mechanical strength of a seal by providing multiple vertically-stacked metallized layers. Thus, no motivation arises to combine any of these references to somehow produce the presently-claimed invention.

When, as here, the prior art itself provides no apparent reason for one of ordinary skill in the art to make a modification or to combine references, an argument clearly does not exist that the claimed subject matter would have been obvious. Thus, an attempt to use the applicants' own disclosure as a blueprint to reconstruct in hindsight the invention now recited in claim as amended herein out of isolated teachings appearing in the prior art clearly would be improper.

The results and advantages produced by the invention set forth in new claims 24-36 as presented herein, and of which the cited first Guenther reference, the APA, the McCormick reference and the McHerron reference are devoid, cannot be ignored simply because the claim limitations might be deemed similar to the otherwise barren prior art.

The foregoing analysis also makes it clear that many limitations appearing in new claims 24-36 are not present in the first Guenther reference, the APA, the McCormick reference and the McHerron reference. When evaluating a claim for determining obviousness, *all* limitations of the claim must be evaluated. Under §103, the Examiner cannot in turn dissect new claims 24-36 as presented herein, excise the various individual elements recited in the claims, and then declare the remaining portions of the mutilated claims to be unpatentable. The Examiner must follow the basic rule of claim interpretation of reading the claims as a whole. Accordingly, the first Guenther reference, the APA, the McCormick reference and the McHerron reference may not properly be used as a basis for rejecting new claims 24-36 as presented herein under §103.

For all the foregoing reasons and more, the presently claimed invention is not *prima facie* obvious in view of the first Guenther reference, the APA, the McCormick reference and the McHerron reference.

(E) Claim 20 is cancelled herein, rendering moot the rejection of such claim; New claims 24-36 are patentable over the APA and first Guenther reference in view of the McCormick and McHerron references.

Claim 20 is cancelled herein, rendering moot the rejection of such claim on the basis of the first Guenther reference, the APA and the second Guenther reference. In addition, for the reasons set forth below, new claims 24-36 are patentable over the first Guenther reference in view of the APA and the second Guenther reference.

Reference to new claim 24 presented herein (and from which all other new claims 25-36 depend) shows that this claim contains elements and limitations disclosed nowhere in the cited first Guenther reference, the APA or the second Guenther reference. For example, reference to new claim 24 as presented herein shows that claim 24 recites a caulking agent disposed along and engaging at least portions of at least one of the second inner sidewall and the second outer sidewall, where the caulking agent improves the hermeticity of the hermetic seal formed by the bonding agent. No such elements are disclosed, hinted at or suggested anywhere in the first Guenther reference, the APA or the second Guenther reference.

The contents of the APA and the first Guenther reference are discussed above in detail.

Perusal of the second Guenther reference shows that it discloses a device having bond pads within a bond pad region, the bond pads comprising a conductive material that is stable when

exposed to atmospheric constituents. The bond pads can be formed from conductive oxide materials such as indium tin oxide. A contact layer is provided to enhance the conductivity between the bond pads and the active component of the device. See the Abstract of the second Guenther reference.

Completely contrary to assertions made by the Examiner in the May 29 Office Action, nowhere does the second Guenther reference disclose "a caulking agent 380" that increases the hermeticity of a bonding agent, or "a bonding agent 364" capable of forming a hermetic seal. Instead, reference to the figures and portions of the second Guenther reference cited by the Examiner shows that this reference discloses an adhesive 364 and a protection layer 380 provided to encapsulate conductors 375 to protect conductor 375 from exposure to atmospheric constituents that may cause damage or corrosion.

Indeed, reference to Fig. 3 of the second Guenther reference shows that protection layer 380 is disposed over portions of conductors 375 that would otherwise be exposed to the atmosphere. Protection layer 380 incidentally engages only a very small portion of adhesive 364 (see fig. 3, for example). Consequently, the structural relationship between protection layer 380 and adhesive 364 illustrated in the second Guenther reference shows that layer 380 is incapable of increasing the hermeticity of adhesive 364, even if protection layer 380 and adhesive layer 364 were capable of providing a hermetic seal (which in any event they are not).

The Applicants have discovered that a certain novel combination of structural, electrical, chemical and electronic elements combined and configured in a certain order are required to produce the beneficial effects of the present invention. As demonstrated above, ***several interconnected elements and limitations recited in claims 24-36 are neither disclosed nor suggested anywhere in the APA, the first Guenther reference, or the second Guenther reference***, and accordingly cannot be *prima facie* obvious.

Merely asserting that "would be obvious to try" the invention by making reference to the dielectric patterning for separating cathode elements of the first Guenther reference, the bonding agent of the APA, and the protection layer of the second Guenther reference, while essentially creating other claimed elements out of whole cloth without referring to any specific portions of the cited references to establish a motivation for combining elements or functionality disclosed therein, would not establish a *prima facie* case of obviousness. In going from the prior art to the claimed invention, one cannot base obviousness on what a person skilled in the art might try or find obvious to *try*, but rather must consider what the prior art would have lead a person skilled in the art to *do*.

There is no incentive, teaching or suggestion in the first Guenther reference, the APA, or the second Guenther reference to produce the invention now recited in claims 24-36. The mere fact that the cited first Guenther reference, the APA and the second Guenther reference could, with the benefit of hindsight, produce something vaguely similar to the present invention does not make the modification obvious, or suggest the desirability of the

modification required to arrive at the present invention. Indeed, this conclusion is buttressed by the fact that several elements and limitations are missing in the first Guenther reference, the APA and the second Guenther reference in respect of new claims 24-36 as presented herein, and as discussed above in detail.

It is well settled that a motivation to combine elements or limitations disclosed in disparate references *must be found from pertinent sources of information*, and that such a motivation does not arise, as here, by merely identifying a collection of disparate piece parts in a combination of references, and then asserting it would have been obvious to take such disparate elements and limitations and add many others thereto to arrive at the presently claimed invention.

There is no suggestion of what direction any experimentation should follow in the first Guenther reference, the APA and the second Guenther reference to obtain the invention recited in new claims 24-36. Accordingly, the result effective variables, for example forming a hermetic seal between a lid and a substrate using a bonding agent, and then applying a caulking agent to at least portions of the bonding agent to improve the hermeticity thereof, are not known to be result effective. Thousands or millions of attempts at variations might be made before arriving at the desired improvement. Thus, to say that it would be obvious to read the first Guenther reference, the APA and the second Guenther reference and somehow arrive at the invention recited in new claims 24-36 would clearly not be the test for obviousness.

The foregoing analysis also makes it clear that there is no basis in the art for modifying the teachings of the first Guenther

reference, the APA and the second Guenther reference to arrive at the invention recited in new claims 24-36. Obviousness cannot be established by combining or modifying the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination.

The first and second Guenther references teach nothing regarding the problems associated with forming a hermetic seal, or maintaining the hermeticity thereof, in an integrated circuit package, and instead are directed towards solving problems arising from the breakage or flexure of thin glass substrates in OLED displays. The APA is directed towards providing a hermetic seal in an integrated circuit package through the use of a single seal or bonding agent. Thus, no motivation arises to combine any of these references to somehow produce the presently-claimed invention.

When, as here, the prior art itself provides no apparent reason for one of ordinary skill in the art to make a modification or to combine references, an argument clearly does not exist that the claimed subject matter would have been obvious. Thus, an attempt to use the applicants' own disclosure as a blueprint to reconstruct in hindsight the invention now recited in claim as amended herein out of isolated teachings appearing in the prior art clearly would be improper.

The results and advantages produced by the invention set forth in new claims 24-36 as presented herein, and of which the cited first Guenther reference, the APA and the second Guenther reference are devoid, cannot be ignored simply because the claim limitations might be deemed similar to the otherwise barren prior art.

The foregoing analysis also makes it clear that many limitations appearing in new claims 24-36 are not present in the first Guenther reference, the APA and the second Guenther reference. When evaluating a claim for determining obviousness, *all* limitations of the claim must be evaluated. Under §103, the Examiner cannot in turn dissect new claims 24-36 as presented herein, excise the various individual elements recited in the claims, and then declare the remaining portions of the mutilated claims to be unpatentable. The Examiner must follow the basic rule of claim interpretation of reading the claims as a whole. Accordingly, the first Guenther reference, the APA and the second Guenther reference may not properly be used as a basis for rejecting new claims 24-36 as presented herein under §103.

For all the foregoing reasons and more, the presently claimed invention is not *prima facie* obvious in view of the first Guenther reference, the APA and the second Guenther reference.

V. Summary

New claims 24-36 as presented herein are pending in the present application, and are believed to be in condition for allowance. Examination of the application as amended is requested. The Examiner is respectfully requested to contact the undersigned by telephone or e-mail with any questions or comments she may have.

Respectfully submitted,
R. Shane Fazzio
By his attorney

Thomas F. Woods
Registration No. 36,726

Date: Aug 21 2007

Woods Patent Law
P.O. Box 2528
Lyons, Colorado 80540-2528
Tel: (303) 823-6560
Fax: (303) 823-6594
E-mail: tom@woodspatentlaw.com